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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/482,135 01/12/00 REGNIER

K 99-247US

EXAMINER

MM91/0122

Charles S. Cohen
Patent Counsel
Molex Incorporated
2222 Wellington Court
Lisle IL 60532

CARROLL M

ART UNIT

PAPER NUMBER

2839

DATE MAILED:

01/22/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/482,135

Applicant(s)

REGNIER, KENT E

Examiner

Michael E. Carroll

Art Unit

2839

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 and 22-26 is/are rejected.
- 7) ☒ Claim(s) 21 and 27 is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some * c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☐ received.
2. ☐ received in Application No. (Series Code / Serial Number) _____.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 9 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the cooperative relation between the "terminal portion" and the "connector."

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 6, 11, 13-20, 22-23 and 25-26 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Sitz. Sitz teaches a electrical connector including a "dielectric housing (Fig.2, element 1) with a plurality of receptacles (See Col. 3, lines 53-55.) arranged in an array, with each receptacle having a through axis," a "plurality of electrically conductive contacts" (Fig. 1, element 5) which are "positioned within some of the receptacles," a "plurality of retention members" (Fig. 3, element 8; See Col. 3, lines 53-55.) within the receptacle and "engaging the contacts" to impart an ungapped condition to the connector," the "ungapped condition of the connector substantially prevents passage of liquid."

Moreover, Sitz teaches the limitations of the following dependent Claims:

(1) Claims 2 and 13, namely, that the "retention member has an opening therethrough, said electrically conductive contact is positioned through said retention member opening and substantially fills said opening" and "retention member has an opening therethrough, and a portion of said contact is within and in engagement with said retention member opening." (See Figs. 1-3.);

(2) Claim 3 and 23, namely, the "receptacle of the housing has a stop surface" (See Figs. 1-3.);

(3) Claim 4, namely, a "demarcation between first and second portions" (See Fig. 3.);

(4) Claim 6, namely, the "ungapped condition imparts compliant and stable mount characteristics (See Figs. 1-3.);

(5) Claim 11, namely, the "housing is a unitary member" (See Figs. 1-3 and description thereof.);

(6) Claim 14, namely, a "retention member with an external surface which engages said receptacle" (See Fig 1.);

(7) Claim 15, namely, a "receptacle stop surface" which abuts the "retention member external surface" (See Fig. 1.);

(8) Claim 16, the "receptacle has an interior surface (See Fig. 2.) which is generally parallel to said through axis, and said retention member external surface abuts said receptacle interior surface;"

(9) 17 and 18, a "force fit condition is present between said contact portion and said retention member opening and between said receptacle and said retention member external surface" and where the force fit is "between said receptacle interior surface and said retention member external surface"(See Figs. 1-3 and description thereof.); and

(10) Claims 19, 20 and 26 a resilient retention member compressed within the receptacle. (See Col. 2, lines 52-56.).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sitz as applied to Claim 4 and 22 above, in view of Kozel et al. Sitz teaches all of the limitations of Claim 4 and 22, except for the "first portion of the electrically conductive contact generally lies along said through axis, while said second portion of the contact is at an acute angle relative to said through axis."

Kozel et al. teaches a first portion which generally lies along the through axis and a second portion at an acute angle to the through axis. (See Fig. 1.) It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have modified Sitz to employ "contacts" with "acute angles" as disclosed in Kozel et al. One of ordinary skill in the

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art, at the time the invention was made, would be motivated to employ different contact configurations to make electrical connections depending on the application requirements, for example, a wiping action to clean the contacts.

4. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sitz as applied to Claim 1 above, in view of Laub. Sitz teaches all of the limitations of dependent Claims 7 and 8, except for an array of contacts in 1mm and 0.05 inch grids.

Laub teaches that 1mm and 0.05 inch grids are industry standards for Land Grid Arrays (LGA). (See Col. 3, lines 51-54.) It would have been obvious to one of ordinary skill in the art, at the time the invention was made to have modified Sitz to employ 1mm and 0.05 inch grids as disclosed in Laub. One of ordinary skill in the art, at the time the invention was made, would have been motivated to employ an "array of contacts" spaced according to the industry standards.

5. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sitz, as applied to Claim 1 above, in view of Tran et al. Sitz teaches all of the limitations of dependent Claim 9, except for a "terminal portion which is formed to be offset with respect to said receptacle through axis.

Tran et al. teaches a "terminal portion" (Fig. 4, element 28) which is formed to be offset with the receptacle through axis. It would have been obvious to one of ordinary skill in the art, at the time the invention was made to have modified Sitz to employ an "offset terminal portion" as disclosed in Tran et al. One of ordinary skill in the art, at the time the invention was made, would be motivated to employ various different terminal configurations to effectuate an

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electrical connection for different applications such as increased contact surface area or wiping action.

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sitz as applied to Claim 1 above, and further in view of Laub. Sitz teaches all of the limitations of dependent Claim 12, except for a housing which "includes a plurality of housing component strips."

Laub teaches the use of a plurality of housing strips to form a contact array. (See Col. 2, line 32-40.) It would have been obvious to one of ordinary skill in the art, at the time the invention was made to have modified Sitz to employ "strips" as disclosed in Laub. One of ordinary skill in the art, at the time the invention was made, would be motivated to employ "strips" so that arrays of any predetermined size could be manufactured.

Allowable Subject Matter

7. Claims 21 and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 21 and 27 are allowable because of the limitations recited in Claim 1 and 22 in combination with "a land contact surface at one end and deflective terminal at an opposite end" which is not disclosed in the prior art of record.

Response to Arguments

8. Applicant's arguments with respect to Claims 1-20 and 22-26 have been considered but are moot in view of the new ground(s) of rejection.

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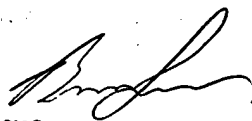
Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Zimmerman, Jr., Swift, Schaller, Buchanan, Boutros, and Nestor teach electrical connectors with a retaining member engaging the contact.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael E. Carroll whose telephone number is (703) 308-1326. The examiner can normally be reached on Monday-Friday (7:30 a.m.-5:00 p.m.), alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached at (703) 308-3119. The fax telephone numbers for the organization where this Application or proceeding is assigned are (703) 308-7722 for regular communications or (703) 308-7724 for After Final communications.

Any inquiry of general nature related to the status of this application should be directed to the group receptionist whose telephone number is (703) 308-0956.


Brian Sircus
Supervisory Patent Examiner
Art Unit 2839

mec
January 16, 2001